July 6, 2021

Ms. Melanie Bachman
Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

Re: Petition No. Petition 1454 - Line Petition_Mansfield Substation

Dear Ms. Bachman:

This letter provides the response to requests for the information listed below.

Response to CSC-001 Interrogatories dated 06/23/2021
CSC-001, 002, 003, 004, 005, 006, 007, 008, 009, 010, 011, 012, 013, 014, 015

Very truly yours,

Kathleen Shanley
Manager
Transmission Siting
As Agent for CL&P
dba Eversource Energy

cc: Service List

Witness: **NO WITNESS**
Request from: **Connecticut Siting Council**

Question:
Referencing page 1 of The Connecticut Light and Power Company d/b/a Eversource Energy's (Eversource) Petition, please describe how the proposed modifications will address reliability, aging infrastructure, transformer overloads, voltage, and distribution load serving issues in the Mansfield, Storrs, Stafford, Union, Willington, Ashford, and Rockville areas.

Response:
Currently, there are only two 27.6-kV lines serving 10,900 customers in the towns of Mansfield, Storrs, Stafford, Union, Willington, Ashford, and Rockville. The proposed modifications will increase reliability by eliminating the 27.6-kV system and replacing it with a more reliable 23-kV system, with five 23-kV lines. The 67-year-old bulk distribution transformer will be replaced with a new 69 to 23-kV, 62.5-MVA transformer; also, a second 69 to 23-kV transformer would be added to the substation. The additional transformer will eliminate any overloads and increase reliability in the event that one of the two transformers is offline.

Witness: **NO WITNESS**
Request from: **Connecticut Siting Council**

Question:
Referencing page 1 of the Petition, please identify the contingencies and describe how the proposed modifications will mitigate the identified contingencies. A Motion for Protective Order may be submitted with the response, if necessary.

Response:
The existing configuration is susceptible to a single transmission contingency causing an interruption of electric service to up to 7,470 customers with no alternate supply. The proposed project will address this risk by adding both a line circuit breaker on the line and a bus-tie circuit breaker in-series with the existing bus-tie circuit breaker. The installation of the line breaker will help prevent tripping Mansfield Substation equipment for line faults and the series circuit breaker installation will prevent a stuck breaker event from affecting all customers served by the station. The two 27.6-kV lines have been lost due to major storm events 4 times over the last 10 years. In the recent event on June 29, 2021, Eversource lost both the 27.6-kV line at Rockville Substation and the 27.6-kV line at the Mansfield Substation for about 2.5 hours interrupting over 7,000 customers.

Witness: **NO WITNESS**
Request from: **Connecticut Siting Council**

Question:
When is the transmission line from Card Street Substation feeding the Mansfield Substation planned to be upgraded to 115-kV?

Response:
At this time, Eversource does not have a plan or need to upgrade these 69-kV lines to 115-kV.

Witness: **NO WITNESS**
Request from: **Connecticut Siting Council**

Question:
How do the modifications improve reliability of the transmission system?

Response:
The proposed modifications are mostly to improve distribution system reliability. The addition of the series breaker will prevent interruption of all transformers at Mansfield Substation in the event of a failure of the existing 69-kV tie breaker. Also, the addition of the 800 Line breaker will prevent interruption of UCONN 5P transmission substation during permanent fault condition or planned maintenance at Mansfield Substation.

Witness: **NO WITNESS**
Request from: **Connecticut Siting Council**

Question:
What is the total estimated cost of the project? Of this total, what costs would be regionalized, and what costs would be localized? Estimate the percentages of the total cost that would be borne by Eversource ratepayers, Connecticut ratepayers, and the remainder of New England (excluding Connecticut) ratepayers, as applicable.

Response:
The total estimated cost of the project is $39.89 million. Mansfield Substation is not a Pool Transmission Facility, the entire cost would be allocated to customers of The Connecticut Light and Power Company d/b/a Eversource Energy.

Witness: **NO WITNESS**
Request from: **Connecticut Siting Council**

Question:
Referencing page 3 of the Petition, Eversource notes that a temporary generator would be deployed to assist with testing and commissioning. Please respond to the following regarding the temporary generator: a) What is the approximate size in kilowatts of the generator? b) What is the fuel source of the generator? c) Would the backup generator be located inside the fenced substation? d) Would the backup generator have containment measures to protect against fluid leakage?

Response:
Please see the responses below:

a) The approximate size of the generator is anticipated to be 500 kilowatts.
b) The fuel source of the generator will be regular gasoline.
c) The backup generator will be located inside the fenced substation.
d) The backup generator will have fuel containment mats to protect against fluid leakage.

Witness: **NO WITNESS**
Request from: **Connecticut Siting Council**

Question:
Referencing page 4 of the Petition, Footnote 3, Eversource notes that the total height of the retaining wall plus the fence would be approximately 11.5 feet high. Referencing Attachment A of the Petition, Drawing No. 17801-92001 PG 2, Section G-G, the top of the fence appears to be 12.5 feet high. Please clarify the maximum fence plus retaining wall height above grade.

Response:
The height of retaining wall is 4.5 feet and the height of the fence is 7 feet (total 11.5 feet high) with an additional 1 foot of barbed wire (total height 12.5 feet) on top of the fence.

Witness: **NO WITNESS**
Request from: **Connecticut Siting Council**

Question:
Referencing page 5 of the Petition, guard rails would be approximately 4.5 feet high and installed on top of the retaining walls. Referencing Attachment A of the Petition, Drawing No. 17801-92001 PG 2, Section G-G, the guard rails on top of the retaining walls appear to be 4 feet high. Please clarify the maximum guard rail height above the retaining wall.

Response:
The maximum height of the guard rail above the retaining wall is 4 feet.

Witness: **NO WITNESS**
Request from: **Connecticut Siting Council**

Question:
Referencing page 5 of the Petition, Footnote 5, provide the status of the consultations regarding a replanting plan for the abutting laydown area.

Response:
Eversource is actively coordinating with UCONN regarding a replanting plan. Eversource is planning to finalize the plan by November 2021 in coordination with UCONN.

Witness: **NO WITNESS**
Request from: **Connecticut Siting Council**

Question:
Referencing page 6 of the Petition, would any trees six inches or greater in diameter be required to be removed at the laydown area located at 25 LeDoyt Road, Mansfield? If yes, how many? Would this laydown area be restored post-construction?

Response:
No, there are no trees currently within the location for the laydown area at 25 LeDoyt Road, Mansfield. And, yes, the laydown area will be restored post-construction.

Witness: **NO WITNESS**
Request from: **Connecticut Siting Council**

Question:
Referencing page 7 of the Petition, Eversource notes that, "All new equipment would be shorter than the tallest existing structure on Eversource's property." Identify the type and height of the tallest existing structure on Eversource's property.

Response:
The tallest structure is the 69-kV bay structure. It has a height of 44 feet with an additional 10 feet high lightning mast mounted at the top of the structure.

ES VER. 05/2015

SCHEDULE

SYMBOL	LABEL	QTY AR	QTY AN	QTY AP	PURPOSE	DESCRIPTION	LUMENS PER LAMP	LLF	WATTAGE
	A	3			YARD LIGHTING	CAST BROWN, PAINTED FINNED METAL HOUSING, 1 CIRCUIT BOARD WITH 1 LED	3514	0.76	30
	B	5	3	2	YARD & TASK LIGHTING	MONGOOSE MEDIUM, P1 PERFORMANCE PACKAGE, 3000K, NARROW ROAD WAY WITH UPLIGHT SKIRT.	15868	0.76	105
	C		2	1	YARD & TASK LIGHTING	PETROLUX 2 LED WET LOCATION	15868	0.76	105
	D	2	1		YARD & TASK LIGHTING	PETROLUX 2 LED WET LOCATION	9568	0.76	99
	E		2		YARD LIGHTING	WALLPACK – CASTER; VALIDATION TESTING PERFORMED IN 25FT CCT GONI (RM2)	2095	0.76	18
	F		2		YARD LIGHTING	TWH LED WITH 30 LEDs, @1000mA, 5000K AND TYPE 3 MEDIUM OPTICS	8427	0.76	104

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STATISTICS

DESCRIPTION	AVG	MAX	MIN
52/1X1	6.2 FC	7.6 FC	4.7 FC
52/2X1	8.2 FC	9.9 FC	6.8 FC
52/4X1	5.8 FC	7.8 FC	4.7 FC
89/4X	6.2 FC	8.1 FC	4.8 FC
REV. AN YARD EXTENSION	3.2 FC	12.3 FC	0.1 FC
XFMR #4	5.2 FC	5.2 FC	5.2 FC

LUMINAIRE LOCATIONS

LABEL	MH(FT)	ORIENTATION	TILT
B-1	15.00	45.00	15.00
B-3	15.00	45.00	15.00
B-4	15.00	0	15.00
C-1	10.00	0.00	0.00
C-2	10.00	0.00	0.00
D-2	11.00	0.00	180.00
E-1	10.00	0.00	0.00
E-2	10.00	0.00	0.00
F-1	10.00	180.00	0.00
F-2	10.00	180.00	0.00

STATISTICS

DESCRIPTION	AVG	MAX	MIN
REV. AP YARD EXTENSION	4.3 FC	13.0 FC	0.4 FC
52/3X1	5.0 FC	5.1 FC	4.9 FC
XFMR #3	7.6 FC	7.6 FC	7.6 FC

LUMINAIRE LOCATIONS

LABEL	MH(FT)	ORIENTATION	TILT
B-5	15.00	45.00	15.00
B-10	15.00	115.00	40.00
C-3	10.00	0.00	0.00

0° 90° 180° 270°

PLAN VIEW

0° 90°

ELEVATION VIEW

LIGHTING ORIENTATION

NOTE:
1. FIXTURE TYPE E AND F IN SCOPE OF THE SWITCHGEAR VENDOR.

REV AP ADDITIONS
REV AN ADDITIONS
REV AR ADDITIONS
CONSTRUCTION-ALL

REVISIONS DURING CONSTRUCTION						
AR	03/21	800 LINE & 17A SERIES CIRCUIT BREAKER ADDITION, WO# 40493201 (BMCD)	AMK	ASG	SM
AN	03/21	INSTALL 12J–4X TRANSFORMER AND SWITCHGEAR, WO# CS001661 (BMCD)	AMK	ASG	SM
AP	03/21	INSTALL 12J–3X TRANSFORMER AND REMOVE 27.6KV EQUIPMENT, WO# CS001662 (BMCD)	AMK	ASG	SM

NO.	DATE	AS BUILT REVISIONS	BY	CHK	APP	APP

EVERSOURCE ENERGY

TITLE
MANSFIELD 12J
STATION LIGHTING – PLAN
PLAN VIEW
MANSFIELD, CT

BY	AMK (BMCD)	CHKD	ASG (BMCD)	APP	SM (BMCD)	APP	SM (BMCD)
DATE	03/21	DATE	03/21	DATE	03/21	DATE	03/21
H-SCALE	1/8"=1'-0"	SIZE	F	FIELD BOOK & PAGES			
V-SCALE	1/8"=1'-0"	V.S.		R.E. DWG			
R.E. PROJ. NUMBER				DWG NO.	17801-35001 PG 1		

4/16/2021 10:44 AM - gosom - C:\USERS\KASAMOA\APPDATA\ROAMING\SYNERGIS\UDEPT\SUPPORT\TMPFILES\UDEPT\KASAMOA\17398334-8380-4684-8092-3A866A587F40.1.0\17801-35001.p001.dwg - Construction-All

Witness: **NO WITNESS**
Request from: **Connecticut Siting Council**

Question:
Referencing page 8 of the Petition, Eversource notes that, "The substation will use the existing lighting and install additional lighting for safety and security purposes." What type(s) of lighting would be installed, and where on the substation footprint would the lighting be installed?

Response:
The additional lighting would be switched-controlled. Dusk to dawn lighting would have a switch to turn the lights on and off. The task lighting would be switched on during emergency and work at night. Lighting on the switchgear and the relay and control house will illuminate their access doors and surrounding area. LED lighting would be facing down for visibility when working at night and would be installed within the substation footprint as follows:

- Safety LED lighting would be mounted on relay and control house and would operate from dusk to dawn.
- Safety LED lighting on two corners of the switchgear facing the back of the switchgear and would operate from dusk to dawn.
- Safety LED lighting on two corners of the switchgear facing the front of the switchgear and would operate from dusk to dawn.
- Task LED lighting would be installed on the existing 69-kV bay structure on column 5, both fire walls facing the transformers, potential transformer structure, and the new motor-operated disconnect switch.
- Task LED lighting on the existing 69-kV bay structure on column 8 and on the new motor-operated disconnect switch.

See attachment for locations of the lighting.

Witness: **NO WITNESS**
Request from: **Connecticut Siting Council**

Question:
Referencing page 8 of the Petition, Eversource notes that, "The 100-year flood zone aligns with the road frontage and cuts across the southeast corner of the property slated to be used as a temporary staging/laydown area." Would the proposed substation modifications/expansion remain outside of the 100-year and 500-year flood zones? Explain.

Response:
Yes, the proposed substation modifications/expansion will remain outside of both the 100-year and 500-year flood zones.

Witness: **NO WITNESS**
Request from: **Connecticut Siting Council**

Question:
Referencing page 8 of the Petition, which erosion and sedimentation control measures would be utilized at the substation site during construction?

Response:
The erosion and sedimentation control measures that would be utilized are silt fence where ground conditions allow, otherwise, seed-free hay bales or straw waddles would be used.

Witness: **NO WITNESS**
Request from: **Connecticut Siting Council**

Question:
Would any restoration of the temporarily impacted wetland areas be necessary? If yes, indicate what restoration measures would be utilized.

Response:
Restoration to temporary wetlands Is not anticipated. Typically, the wetlands naturally rebound following removal of temporary construction matting. Eversource will monitor the area after the removal of the matting and restore any vegetation with New England wetland seed mix, if deemed necessary.